Practitioner's Docket No. 1721-1 **PATENT**

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.'" M.P.E.P. § 601, 7th ed.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): WHITE, James M.

WARNING: *37 C.F.R. § 1.41(a)(1) points out:*

"(a) A patent is applied for in the name or names of the actual inventor or inventors.

"(1) The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.63, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name or names of the inventor or inventors."

For (title): BIOLOGICAL FLUID DISPOSAL SYSTEM

CERTIFICATION UNDER 37 C.F.R. § 1.10*
(Express Mail label number is mandatory.)
(Express Mail certification is optional.)

I hereby certify that this New Application Transmittal and the documents referred to as attached therein are being deposited with the United States Postal Service on this date _____, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number _____, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

John S. Egbert
(type or print name of person mailing paper)

Signature of person mailing paper

WARNING: *Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.*

****WARNING:*** *Each paper or fee filed by "Express Mail"* ***must*** *have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).*
"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will ***not*** *be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.*

1. Type of Application

This new application is for a(n)

(check one applicable item below)

☒ Original (nonprovisional)

☐ Design

☐ Plant

WARNING: ***Do not*** *use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. § 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.*

WARNING: ***Do not*** *use this transmittal for the filing of a provisional application.*

NOTE: If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.

☐ Divisional.

☐ Continuation.

☐ Continuation-in-part (C-I-P).

2. Benefit of Prior U.S. Application(s) (35 U.S.C. §§ 119(e), 120, or 121)

NOTE: A nonprovisional application may claim an invention disclosed in one or more prior filed copending nonprovisional applications or copending international applications designating the United States of America. In order for a nonprovisional application to claim the benefit of a prior filed copending nonprovisional application or copending international application designating the United States of America, each prior application must name as an inventor at least one inventor named in the later filed nonprovisional application and disclose the named inventor's invention claimed in at least one claim of the later filed nonprovisional application in the manner provided by the first paragraph of 35 U.S.C. § 112. Each prior application must also be:

(i) An international application entitled to a filing date in accordance with PCT Article 11 and designating the United States of America; or

(ii) Complete as set forth in § 1.51(b); or

(iii) Entitled to a filing date as set forth in § 1.53(b) or § 1.53(d) and include the basic filing fee set forth in § 1.16; or

(iv) Entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(l) within the time period set forth in § 1.53(f).

37 C.F.R. § 1.78(a)(1).

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

WARNING: *If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. §§ 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. §§ 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. §§ 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.*

WARNING: *When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application* ***must*** *be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3).*

☐ The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

3. Papers Enclosed

A. Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. § 1.153 (Design) Application

11 Pages of specification

6 Pages of claims

2 Sheets of drawing

WARNING: ***DO NOT*** *submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. For comments on proposed then-new 37 C.F.R. § 1.84, see Notice of March 9, 1988 (1990 O.G. 57-62).*

NOTE: "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page . . ." 37 C.F.R. § 1.84(c)).

(complete the following, if applicable)

☐ The enclosed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. § 1.84(b).

☐ formal

☒ informal

B. Other Papers Enclosed

2 Pages of declaration and power of attorney

1 Pages of abstract

____ Other

4. Additional papers enclosed

☐ Amendment to claims

☐ Cancel in this applications claims _____ before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)

☐ Add the claims shown on the attached amendment. (Claims added have been numbered consecutively following the highest numbered original claims.)

☐ Preliminary Amendment

☐ Information Disclosure Statement (37 C.F.R. § 1.98)

☐ Form PTO-1449 (PTO/SB/08A and 08B)

☐ Citations

☐ Declaration of Biological Deposit

☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.

☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative

☐ Special Comments

☐ Other

5. Declaration or oath (including power of attorney)

NOTE: A newly executed declaration is not required in a continuation or divisional application provided that the prior nonprovisional application contained a declaration as required, the application being filed is by all or fewer than all the inventors named in the prior application, there is no new matter in the application being filed, and a copy of the executed declaration filed in the prior application (showing the signature or an indication thereon that it was signed) is submitted. The copy must be accompanied by a statement requesting deletion of the names of person(s) who are not inventors of the application being filed. If the declaration in the prior application was filed under § 1.47, then a copy of that declaration must be filed accompanied by a copy of the decision granting § 1.47 status or, if a nonsigning person under § 1.47 has subsequently joined in a prior application, then a copy of the subsequently executed declaration must be filed. See 37 C.F.R. §§ 1.63(d)(1)–(3).

NOTE: A declaration filed to complete an application must be executed, identify the specification to which it is directed, identify each inventor by full name including family name and at least one given name, without abbreviation together with any other given name or initial, and the residence, post office address and country or citizenship of each inventor, and state whether the inventor is a sole or joint inventor. 37 C.F.R. § 1.63(a)(1)–(4).

NOTE: "The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.62, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name or names of the inventor or inventors." 37 C.F.R. § 1.41(a)(1).

☒ Enclosed

Executed by

(check **all** *applicable boxes)*

☒ inventor(s).

☐ legal representative of inventor(s). 37 C.F.R. §§ 1.42 or 1.43.

☐ joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.

☐ This is the petition required by 37 C.F.R. § 1.47 and the statement required by 37 C.F.R. § 1.47 is also attached. *See* item 13 below for fee.

☐ Not Enclosed.

NOTE: Where the filing is a completion in the U.S. of an International Application or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

☐ Application is made by a person authorized under 37 C.F.R. § 1.41(c) on behalf of *all* the above named inventor(s).

(The declaration or oath, along with the surcharge required by 37 C.F.R. § 1.16(e) can be filed subsequently).

☐ Showing that the filing is authorized.
(not required unless called into question. 37 C.F.R. § 1.41(d))

6. Inventorship Statement

WARNING: *If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.*

The inventorship for all the claims in this application are:

☒ The same.

or

☐ Not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,

☐ is submitted.

☐ will be submitted.

7. Language

NOTE: An application including a signed oath or declaration may be filed in a language other than English. An English translation of the non-English language application and the processing fee of $130.00 required by 37 C.F.R. § 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 C.F.R. § 1.52(d).

☒ English

☐ Non-English

☐ The attached translation includes a statement that the translation is accurate. 37 C.F.R. § 1.52(d).

8. Assignment

☒ An assignment of the invention to Medwaste Holdings L.C.

☒ is attached. A separate ☒ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTO 1595 is also attached.

☐ will follow.

NOTE: "If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).

WARNING: *A newly executed "CERTIFICATE UNDER 37 C.F.R. § 3.73(b)" must be filed when a continuation-in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.*

9. Certified Copy

Certified copy(ies) of application(s)

Country	Appln. No.	Filed
Country	Appln. No.	Filed
Country	Appln. No.	Filed

from which priority is claimed

☐ is (are) attached.

☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 C.F.R. § 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. § 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 C.F.R. § 1.16)

A. ☒ Regular application

CLAIMS AS FILED				
Number filed	Number Extra		Rate	Basic Fee 37 C.F.R. § 1.16(a) $690.00
Total Claims (37 C.F.R. § 1.16(c))	20 − 20 =	×	$ 18.00	
Independent Claims (37 C.F.R. § 1.16(b))	3 − 3 =	×	$ 78.00	
Multiple dependent claim(s), if any (37 C.F.R. § 1.16(d))		+	$260.00	

☐ Amendment cancelling extra claims is enclosed.

☐ Amendment deleting multiple-dependencies is enclosed.

☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 C.F.R. § 1.16(d).

Filing Fee Calculation $690

B. ☐ Design application ($310.00—37 C.F.R. § 1.16(f))

Filing Fee Calculation $_____

C. ☐ Plant application
($480.00—37 C.F.R. § 1.16(g))

Filing fee calculation $_____

11. Small Entity Statement(s)

☒ Statement(s) that this is a filing by a small entity under 37 C.F.R. § 1.9 and 1.27 is (are) attached.

WARNING: *"Status as a small entity must be specifically established in each application or patent in which the status is available and desired. Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. The refiling of an application under § 1.53 as a continuation, division, or continuation-in-part (including a continued prosecution application under § 1.53(d)), or the filing of a reissue application requires a new determination as to continued entitlement to small entity status for the continuing or reissue application. A nonprovisional application claiming benefit under 35 U.S.C. § 119(e), 120, 121, or 365(c) of a prior application, or a reissue application may rely on a statement filed in the prior application or in the patent if the nonprovisional application or the reissue application includes a reference to the statement in the prior application or in the patent or includes a copy of the statement in the prior application or in the patent and status as a small entity is still proper and desired. The payment of the small entity basic statutory filing fee will be treated as such a reference for purposes of this section." 37 C.F.R. § 1.28(a)(2).*

WARNING: *"Small entity status must not be established when the person or persons signing the . . . statement can **unequivocally** make the required self-certification." M.P.E.P., § 509.03, 6th ed., rev. 2, July 1996 (emphasis added).*

(complete the following, if applicable)

☐ Status as a small entity was claimed in prior application

_____ / _____, filed on _____, from which benefit is being claimed for this application under:

35 U.S.C. § ☐ 119(e),
☐ 120,
☐ 121,
☐ 365(c),

and which status as a small entity is still proper and desired.

☐ A copy of the statement in the prior application is included.

Filing Fee Calculation (50% of **A, B** or **C** above)

$ 345

NOTE: Any excess of the full fee paid will be refunded if small entitiy status is established and a refund request are filed within 2 months of the date of timely payment of a full fee. The two-month period is not extendable under § 1.136. 37 C.F.R. § 1.28(a).

12. Request for International-Type Search (37 C.F.R. § 1.104(d))

(complete, if applicable)

☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fee Payment Being Made at This Time

☐ Not Enclosed

☐ No filing fee is to be paid at this time.
(This and the surcharge required by 37 C.F.R. § 1.16(e) can be paid subsequently.)

☒ Enclosed

☒ Filing fee	$ 345
☐ Recording assignment ($40.00; 37 C.F.R. § 1.21(h)) (See attached "COVER SHEET FOR ASSIGNMENT ACCOMPANYING NEW APPLICATION".)	$
☐ Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached ($130.00; 37 C.F.R. §§ 1.47 and 1.17(i))	$
☐ For processing an application with a specification in a non-English language ($130.00; 37 C.F.R. §§ 1.52(d) and 1.17(k))	$
☐ Processing and retention fee ($130.00; 37 C.F.R. §§ 1.53(d) and 1.21(l))	$
☐ Fee for international-type search report ($40.00; 37 C.F.R. § 1.21(e))	$

NOTE: 37 C.F.R. § 1.21(l) establishes a fee for processing and retaining any application that is abandoned for failing to complete the application pursuant to 37 C.F.R. § 1.53(f) and this, as well as the changes to 37 C.F.R. §§ 1.53 and 1.78(a)(1), indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid, or the processing and retention fee of § 1.21(l) must be paid, within 1 year from notification under § 53(f).

Total fees enclosed $ 345

14. Method of Payment of Fees

☒ Check in the amount of $ 345

☐ Charge Account No. _____ in the amount of $_____.

A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 C.F.R. § 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: *If no fees are to be paid on filing, the following items should not be completed.*

WARNING: *Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.*

☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 08-0879 :

- ☒ 37 C.F.R. § 1.16(a), (f) or (g) (filing fees)
- ☐ 37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- ☐ 37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
- ☐ 37 C.F.R. § 1.17(a)(1)–(5) (extension fees pursuant to § 1.136(a)).
- ☐ 37 C.F.R. § 1.17 (application processing fees)

NOTE: ". . .A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

- ☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

NOTE: 37 C.F.R. § 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . the issue fee. . . " From the wording of 37 C.F.R. § 1.28(b), (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions as to Overpayment

NOTE: ". . . Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

☒ Credit Account No. 08-0879

☐ Refund

SIGNATURE OF PRACTITIONER

Reg. No. 30,627

John S. Egbert

(type or print name of attorney)

Tel. No. (713) 223-4034

Harrison & Egbert
1018 Preston St., Suite 100

P.O. Address

Customer No. 24106

Houston, Texas 77002

☐ **Incorporation by reference of added pages**

(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)

☐ Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed

Number of pages added _____

☐ Plus Added Pages for Papers Referred to in Item 4 Above

Number of pages added _____

☐ Plus added pages deleting names of inventor(s) named in prior application(s) who is/are no longer inventor(s) of the subject matter claimed in this application.

Number of pages added _____

☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

☒ **Statement Where No Further Pages Added**

(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)

☒ This transmittal ends with this page.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT or PATENTEE: WHITE, James M.

SERIAL or PATENT NO.:

FILED or ISSUED: Herewith

GROUP:

TITLE: BIOLOGICAL FLUID DISPOSAL SYSTEM

SMALL ENTITY DECLARATION

[ ] FOR INDEPENDENT INVENTOR(S)

As a below-named inventor, I hereby declare that I am an independent inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law, to assign, grant, convey, or license, any rights in the invention, to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization, as defined in 37 C.F.R. 1.9

[x] FOR SMALL BUSINESS CONCERN

I hereby declare that Medwaste Holdings, L.C. is a business concern which qualifies as a small business concern as defined in §1.9(d) - namely, (1) whose number of employees, including those of its affiliates, does not exceed 500 persons; and (2) which has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section; and that the exclusive rights to the invention have been conveyed to and remain with the above-identified small business concern.

I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful, false statements and the like, so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the patent application or any patent issuing thereon.

INVENTOR(S)

Name: James White
Date: 6/13/00

Name:
Date:

SMALL BUSINESS CONCERN

President

Name: Medwaste Holdings., L.C.
Title: President
Date: 6/13/00

Name:
Title:
Date:

BIOLOGICAL FLUID DISPOSAL SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to apparatus and methods for the disposal of waste biological fluids. More particularly, the present invention relates to the disposal of blood by mixing the blood with a disinfectant prior to passing to a sewer.

2. Description of Related Art

Over the years, hospitals and other healthcare facilities have been searching for a safe and convenient manner in which to handle and dispose of fluids aspirated from patients during surgical procedures. A major concern today is to reduce the hospital personnel's exposure to the fluids which may contain harmful and dangerous substances.

There are various means for collecting and handling waste materials, including bodily fluids that are aspirated during surgical operation or accumulated for some other reason where a patient is located. Waste materials and body fluids that can be collected include blood, urine, mucus and other bodily discharges. Known waste collection devices and systems include various types of containers into which the collected waste materials are accumulated during surgery and otherwise and from which they are dispensed or poured and sometimes disinfected at a later time. Such devices are usually removed from the place where the collection is made and while the waste materials are still contaminated. If decontamination is to take place before waste disposal, they are decontaminated

or disinfected at some other location remote from where they are collected and before discharge into a larger waste receptacle or into a waste disposal system or sewer.

In the past, various U.S. patents have issued relating to such biological fluid disposal systems. For example, U.S. Patent No. 4,863,446, issued on September 5, 1989 to R. D. Parker, teaches a combination fluid collection and disposal apparatus. This apparatus includes a collection unit for collecting the fluid in a treatment unit for coupling with the collection unit to remove the fluid from the collection unit and to dispose the fluid. The collection unit is a reservoir for the temporary storage of fluids aspirated from the patient, a vacuum port for connecting the collection unit to a vacuum source and vacuum line connected to the vacuum port to the reservoir. U.S. Patent No. 4,957,491, issued on September 18, 1990 to the same inventor, describes a similar apparatus.

U.S. Patent No. 5,087,420, issued on February 11, 1992 to E. E. Jackson, describes a disposal system for infectious waste where the waste is drawn into a container. At the same time, a disinfectant is drawn into the container. The disinfectant and the infectious waste are mixed in the chamber before being forwarded to a drain or for disposal. An aspirator pump creates the requisite vacuum. The device also utilizes a macerator for the purpose of fragmenting the biological components prior to disposal.

U.S. Patent No. 5,242,434, issued on September 7, 1993 to W. M. Terry, teaches another medical waste handling system in which the infectious fluid is mixed with a disinfectant from another container before being discharged into the environment. Various conduits are connected to a collection chamber. Various other types of pumps are employed so as to introduce or to release fluid from the collection chamber.

U.S. Patent No. 5,387,204, issued on February 7, 1995 to Olsson et al., describes an apparatus and method for dosing an additive at the collection of liquid. The apparatus uses a suction to draw contaminated fluid through a tube. While the contaminated fluid is passed through a tube, it is mixed with a disinfectant before being forwarded for discharge.

U.S. Patent No. 5,741,238, issued on April 21, 1998 to Bradbury et al., teaches a medical and biological fluid collection and disposal system in which a vessel is divided into compartments which receive the biological fluid wastes through an inlet fitting. As the fluid is received, air in the vessel is displaced and is discharged through a vent line. When a level sensor senses that a level of fluid in the vessel is approaching a pre-selected maximum, a control circuit closes a valve in the vent line so as to block the discharge of air from the vessel and to create a backpressure that stops the receipt of further fluid.

U.S. Patent No. 5,776,118, issued on July 7, 1998 to Seifert et al., describes another collection and disposal system in which a collection vessel is connected for receiving waste fluids. The collection vessel is connected by a valve with a drain for draining the collected fluids. A fluid inlet is connected with an exterior water source to supply water through interconnected tubing to rinse waste residue from the collection vessel. A powdered reagent is received in a cup that is carried by a drawer to a position above the fluid mixing reservoir. A pump re-circulates the water through the reservoir to make the disinfectant fluid concentrate which is supplied to a venturi to be selectively entrained in the rinse water. U.S. Patent No. 5,885,240, issued on March 23, 1999 to the same inventor, describes a similar type of system.

U.S. Patent No. 5,914,047, issued on June 22, 1999 to G. R. Griffiths, teaches an on-site bioharzardous waste collection and treatment system. The infectious fluid is treated by using a

vacuum to draw in a disinfectant to be mixed with the bioharzardous material. The requisite suction is created by peristaltic pump. U.S. Patent No. 6,039,724, issued on March 21, 2000 to the same inventor, describes a similar system.

Unfortunately, these systems utilize complex arrangements of mechanical pumps for the purpose of mixing the disinfectant with the biological fluid. In many circumstances, the pump itself must be repaired or cleaned so as to make the system suitable for future use. The use of various mechanical and electrical pumps further complicates the system and makes the system much more expensive. It is often difficult to specifically and accurately regulate the mixture of fluid with the disinfectant using such systems. Whenever such mechanical and electrical systems are employed, repair is frequently required. Under certain circumstances, the pumps and fluid lines must be primed before the pumping and mixing action can occur.

It is an object of the present invention to provide such a system which allows for the proper disposal of biological fluids.

It is another object of the present invention to provide such a system which reduces the cost associated with disposal.

It is a further object of the present invention to provide such a system which reduces liability caused by biological fluid spills.

It is a further object of the present invention to provide such a system which does not require the use of mechanical or electrical pumping apparatus.

It is a further object of the present invention to provide such a system which assures a proper dosing of the disinfectant with the biological fluid.

It is a further object of the present invention to provide such a system which automatically and inherently stops the mixing action and the pumping of disinfectant when the biological fluid supply is exhausted.

It is still another object of the present invention to provide such a system which reduces the complications associated with the cleaning of the mechanism.

These and other objects and advantages of the present invention will become apparent from a reading of the attached specification and appended claims.

BRIEF SUMMARY OF THE INVENTION

The present invention is a biological fluid disposal system comprising a water flow line, a biological fluid line in fluid communication with the water flow line, and a disinfectant line in fluid communication with the water flow line and the biological fluid line. The biological fluid line and the disinfectant line are connected with the water flow line such that a flow of water through the water flow line causes a suction action through the biological fluid line and the disinfectant line. This effect is created by passing water flow through the water flow line so as to create a venturi effect therein. The biological fluid and the disinfectant are intimately mixed together through the biological fluid line prior to entering the water flow line.

A water inlet communicates with one end of the water flow line. An outlet is connected to the water flow line on an opposite end of the water flow line. The outlet serves to pass the mixed disinfectant, biological fluid and water toward a sewer.

The biological fluid line comprises a pipe which communicates with the water flow line. The disinfectant line is connected to this pipe at a distance from the water flow line and between an inlet

of the pipe and the water flow line. A valve is connected to the pipe for limiting the rate of biological fluid flow through the biological fluid line. A suction line can extend outwardly of this pipe. It is connected to the valve. The suction line is suitable for insertion into a biological fluid container. The biological fluid container can have a supply of biological fluid therein. The suction line is positioned so as to removably extend below the top level of biological fluid within the biological fluid container. The disinfectant line comprises a pipe which communicates with the biological fluid line. A suction line extends outwardly of this pipe. The suction line is suitable for insertion into a disinfectant container. The disinfectant container can have a supply of disinfectant therein. The suction line has an inlet which extends into the disinfectant within the container. A metering valve is interconnected to this pipe for limiting the rate of disinfectant flow through the pipe.

A housing extends over the water flow line and the biological fluid line and the disinfectant line. The water flow line has an inlet and an outlet extending outwardly of the housing. The biological fluid line has an inlet positioned outwardly of the housing. The disinfectant line has an inlet extending outwardly of the housing.

The present invention is also a method of disposing of a biological fluid comprising the steps of: (1) connecting a biological fluid line to a disinfectant line such that one of the lines opens into the other line; (2) connecting the water flow line to an outlet of the other of the biological fluid line and the disinfectant line; (3) passing water through the water flow line across the outlet so as to cause a venturi effect to draw biological fluid and disinfectant through the respective biological fluid line and disinfectant line; (4) mixing the biological fluid and the disinfectant and the other of the biological fluid line and the disinfectant line; and (5) discharging the water and the mixed biological

fluid and the disinfectant from the water flow line. The disinfectant line is connected to the biological fluid line between an inlet of the biological fluid line and the outlet . The inlet of the biological fluid line is inserted into a container of biological fluid. The inlet of the disinfectant line is inserted into a container of disinfectant. The rate of flow of disinfectant is controlled relative to the rate of flow of biological fluid.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a cross-sectional view showing the biological fluid disposal system in accordance with the preferred embodiment of the present invention.

FIGURE 2 is a diagrammatic illustration of the process used by the system of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGURE 1, there is shown at 10 a biological fluid disposal system in accordance with the teachings of the present invention. The biological fluid disposal system 10 includes a housing 12, a water flow line 14, a biological fluid line 16 and a disinfectant line 18. The biological fluid line 16 is in fluid communication with the water flow line 14. The disinfectant line 18 is in fluid communication with the biological fluid line 16 and with the water flow line 18. The biological fluid line 16 and the disinfectant line 18 are connected such that the biological fluid and disinfectant are mixed in pipe 20 and discharged into the water flow line 14 at outlet 22. The flow of water through the water flow line 14 across the outlet 22 creates a venturi effect so as to create

a suction within the pipe 20 for drawing the disinfectant 24 through the disinfectant line 18 and for drawing the biological fluid 26 into and through the biological fluid line 16.

As can be seen in FIGURE 1, housing 12 will extend around and over the water flow line 14, the biological fluid line 16, and the disinfectant line 18. The water flow line 14 has an inlet 28 which extends outwardly of the housing 12. The water flow line 14 also has an outlet 30 which extends outwardly of the housing 12. The biological fluid line 16 has an inlet 32 which extends outwardly of the housing 12. The disinfectant line 18 also has an inlet 34 which extends outwardly of the housing 12.

The water flow line 14 has its inlet 28 connected to a source of water pressure. The source of water pressure can be a hospital faucet, a gravity-fed source of water, or a supply of water pumped from a tank or other container. The water flow through the water flow line 14 should be sufficiently great so as to cause the venturi effect across the outlet 22. The water flow line 14 has a horizontal portion 36 connected by a curved coupling 38 to a vertical portion 40. A back wash valve 42 is connected to the vertical portion 40. A flexible hose (or other item) 44 can be connected to the terminal end 46 of the vertical portion 40 so as to allow the water flow line 14 to be connected to a drain and, eventually, to a sewer. The water flow line 14 is configured so as to deliver the water and the mixed disinfectant and biological fluid to the drain and into the sewage system. The back wash valve 42 can be suitably connected to a source of water pressure so that a reverse flow of water and disinfectant can be sent through the water flow line 14 for the cleaning of the system 10.

The biological fluid line 16 includes pipe 20 which communicates with the water flow line 14. The disinfectant line 18 is connected to the pipe 20 between the outlet 22 and the inlet 32. A suction line 48 is connected to the pipe 20 of the biological fluid line 16. As can be seen in FIGURE

1, the suction line 48 is received within the interior of a biological fluid container 50. Biological fluid container 50 has a supply of biological fluid 26 therein. The inlet 32 of the biological fluid line 16 will open below the top level 52. When the requisite suction is created by the flow water across the outlet 22, the biological fluid 26 will be drawn into the inlet 32 and upwardly through the biological fluid line 16 prior to being mixed with the disinfectant 24 from the disinfectant line 18.

A valve 54 is connected along the biological fluid line 16 between the inlet 32 and the outlet 22. Valve 54 can control the rate of biological fluid flow through the biological fluid line 16. The valve 54 can be a simple metering valve which controls fluid flow rates.

Within the concept of the present invention, the biological fluid can be blood, blood products, body fluids, urine or mucus. The container 50 can be in the form of an open container which is transported from the surgical room to a disposal area. Alternatively, the container 50 can be a blood bag which is secured in a sealed manner to the inlet 32 of the biological fluid line 16.

The disinfectant line 18 has a pipe 56 which is connected to the pipe 20 of the biological fluid line 16. As such, the disinfectant 24 from a disinfectant container 58 is discharged into the pipe 20 for intimate mixing with the biological fluid 26 therein. The disinfectant line 18 has inlet 34 residing within the disinfectant container 58 at a location below the top level 60 of the disinfectant 24 within the container 58. A metering valve 62 is connected along the disinfectant line 18 so as to control the rate of disinfectant flow through the disinfectant line 18. The valves 54 and 62 of the respective biological fluid line 16 and the disinfectant line 18 can be suitably adjusted so that the proper mixture of the disinfectant 24 and biological fluid 26 can be obtained.

The disinfectant 24 will typically be of a formula and concentration sufficient upon contact, to reduce and eliminate the pathogenic agents present in the biological fluid 26. In the preferred form of the present invention, the chemical disinfectant is a chlorine-based compound in liquid form.

As can be seen in the present invention, the system 10 is a static system which does not require mechanical or electrical appliances. The venturi action of passing the flow of water across the outlet 22 will cause a proper mixing of the disinfectant 24 with the biological fluid 26. No complicated pumping mechanisms are required. The water inlet 28 can be simply connected to a source of water pressure. The outlet of the water flow line 14 can be simply inserted into a suitable drain so that the mixed and disinfected biological fluid can be discharged into a sewer. The arrangement of the components assures a proper mixture of disinfectant 24 and biological fluid 26 for decontamination. Cleaning of the system is very easy because of the lack of mechanical mechanisms.

An interesting feature of the present invention is that the system is its self-regulation. In any venturi-type system, fluids will flow in the direction of least resistance. When the supply of biological fluid 26 is exhausted from container 50, the inlet 32 will simply suck air therethrough. As a result, no disinfectant 24 will be drawn, at that time, from the container 58. As such, there is no need to monitor the system to shut off the system when the biological fluid supply is exhausted.

FIGURE 2 is a diagrammatic illustration of the process of the present invention. As can be seen, water is introduced into inlet 28 under pressure. The water will flow through the water flow line 14 across venturi 70 so as to create the requisite suction on the biological fluid line 16. This suction will draw biological fluid through the biological fluid line 16 and will, simultaneously, draw the disinfectant through the orifice 72 associated with the disinfectant line 18. The rate of mixing

of the disinfectant with the biological fluid is assured by the proper manipulation of the metering valves 54 and 62. The mixture of biological fluid and disinfectant will directly occur in the pipe 20 between the outlet 76 of the disinfectant line 18 and the outlet 22 of the biological fluid line 16. The mixture of the biological fluid and the disinfectant will flow into the water flow passing through the water flow line 14 in the area past the outlet 22. This mixed and decontaminated waste can then be discharged as waste into the sewer system. Each of the components can be safely secured in a sealed housing 12.

The foregoing disclosure and description of the invention is illustrative and explanatory thereof. Various details of the illustrated constructions or the steps of the described method can be changed within the scope of the appended claims without departing from the true spirit of the invention. The present invention should only be limited by the following claims and their legal equivalents.

CLAIMS

I CLAIM:

1. A biological fluid disposal system comprising:

a water flow line;

a biological fluid line in fluid communication with said water flow line; and

a disinfectant line in fluid communication with said water flow line and said biological fluid line, said biological fluid line and said disinfectant line being connected to said water flow line such that a flow of water through said water flow line causes a suction action through said biological fluid line and said disinfectant line.

2. The system of Claim 1, said water flow line having an inlet means and an outlet means, said inlet means for passing a water flow through said water flow line, said outlet means for releasing a mixture of biological fluid and water and disinfectant from said water flow line.

3. The system of Claim 1, further comprising:

a water inlet communicating with one end of said water flow line; and

an outlet means connected to said water flow line on an opposite end of said water flow line, said outlet means for passing a flow of liquid from said water flow line to a sewer.

4. The system of Claim 1, said biological fluid line comprising:

a pipe communicating with said water flow line, said disinfectant line connected to said pipe a distance from said water flow line and between an inlet of said pipe and said water flow line.

5. The system of Claim 4, further comprising:

a valve means connected to said pipe, said valve means for limiting a rate of biological fluid flow through said biological fluid line.

6. The system of Claim 5, further comprising:

a suction line extending outwardly of said pipe and connected to said valve means, said suction line suitable for insertion into a biological fluid container.

7. The system of Claim 6, further comprising:

a biological fluid container having a supply of biological fluid therein, said supply of biological fluid having a top level within said biological fluid container, said suction line removably extending so as to have an inlet below said top level.

8. The system of Claim 1, said disinfectant line comprising:

a pipe communicating with said biological fluid line; and

a suction line extending outwardly of said pipe, said suction line suitable for insertion into a disinfectant container.

9. The system of Claim 8, further comprising:

a disinfectant container having a supply of disinfectant therein, said supply of disinfectant having a top level within said disinfectant container, said suction line having an inlet removably extending below said top level.

10. The system of the Claim 8, further comprising:

a metering valve means interconnected to said pipe for limiting a rate of disinfectant flow through said pipe.

11. The system of Claim 1, further comprising:

a housing extending over said water flow line and said biological fluid line and said disinfectant line, said water flow line having an inlet and an outlet extending outwardly of said housing, said biological fluid line having an inlet positioned outwardly of said housing, said disinfectant line having an inlet extending outwardly of said housing.

12. A biological fluid disposal system comprising:

a water flow line;

a biological fluid line in fluid communication with said water flow line;

a disinfectant line in fluid communication with said water flow line and said biological fluid line; and

a venturi means connected to one of said lines for creating a suction force so as to draw a biological fluid and a disinfectant in mixed relationship through said water flow line.

13. The system of Claim 12, said venturi means comprising:

a source of water pressure connected to said water flow line such that water flow across an opening of at least one of said biological fluid line and said disinfectant line so as to create said suction force.

14. The system of Claim 12, further comprising:

a sewer interconnected to an outlet of said water flow line, said venturi means for causing a mixture of water and biological fluid and disinfectant to pass in mixed relationship toward said sewer.

15. The system of Claim 12, further comprising:

a biological fluid container having a supply of biological fluid therein, said supply of biological fluid having a top level within said biological fluid container, said biological fluid line having an inlet below said top level; and

a disinfectant container having a supply of disinfectant therein, said supply of disinfectant having a top level within said disinfectant container, said disinfectant line having an inlet below said top level of said supply of disinfectant.

16. The system of Claim 15, said disinfectant line connected to said biological fluid line between said water flow line and said biological fluid container.

17. A method of disposing of a biological fluid comprising:

connecting a biological fluid line to a disinfectant line such that one of said biological fluid line and said disinfectant line opens into the other of said biological fluid line and said disinfectant line;

connecting a water flow line to an outlet of the other of said biological fluid line and said disinfectant line;

passing water through said water line across said outlet so as to cause a venturi effect to draw biological fluid and disinfectant through the respective biological fluid line and disinfectant line;

mixing the biological fluid and the disinfectant in the other of said biological fluid line and said disinfectant line; and

discharging the water and the mixed biological fluid and disinfectant from said water flow line.

18. The method of Claim 17, said step of connecting said biological fluid line to said disinfectant line comprising:

connecting said disinfectant line to said biological fluid line between an inlet of said biological fluid line and said outlet.

19. The method of Claim 17, further comprising:

inserting an inlet of said biological fluid line into a container of biological fluid; and

inserting an inlet of said disinfectant line into a container of said disinfectant.

20. The method of Claim 17, further comprising:

controlling a rate of flow of disinfectant into said biological fluid line relative to a rate of flow of biological fluid through said biological fluid line.

ABSTRACT OF THE DISCLOSURE

A biological fluid disposal system having a water flow line, a biological fluid line in fluid communication with the water flow line, a disinfectant line in fluid communication with the water flow line and the biological fluid line, and a venturi connected to one of the lines for creating a suction force so as to draw a biological fluid and a disinfectant in mixed relationship through the water flow line. The venturi includes a source of water pressure connected to the water flow line such that the water flow across an opening of either the biological fluid line and disinfectant line creates the suction force. The disinfectant line is connected to the biological fluid line between the water flow line and source of biological fluid.

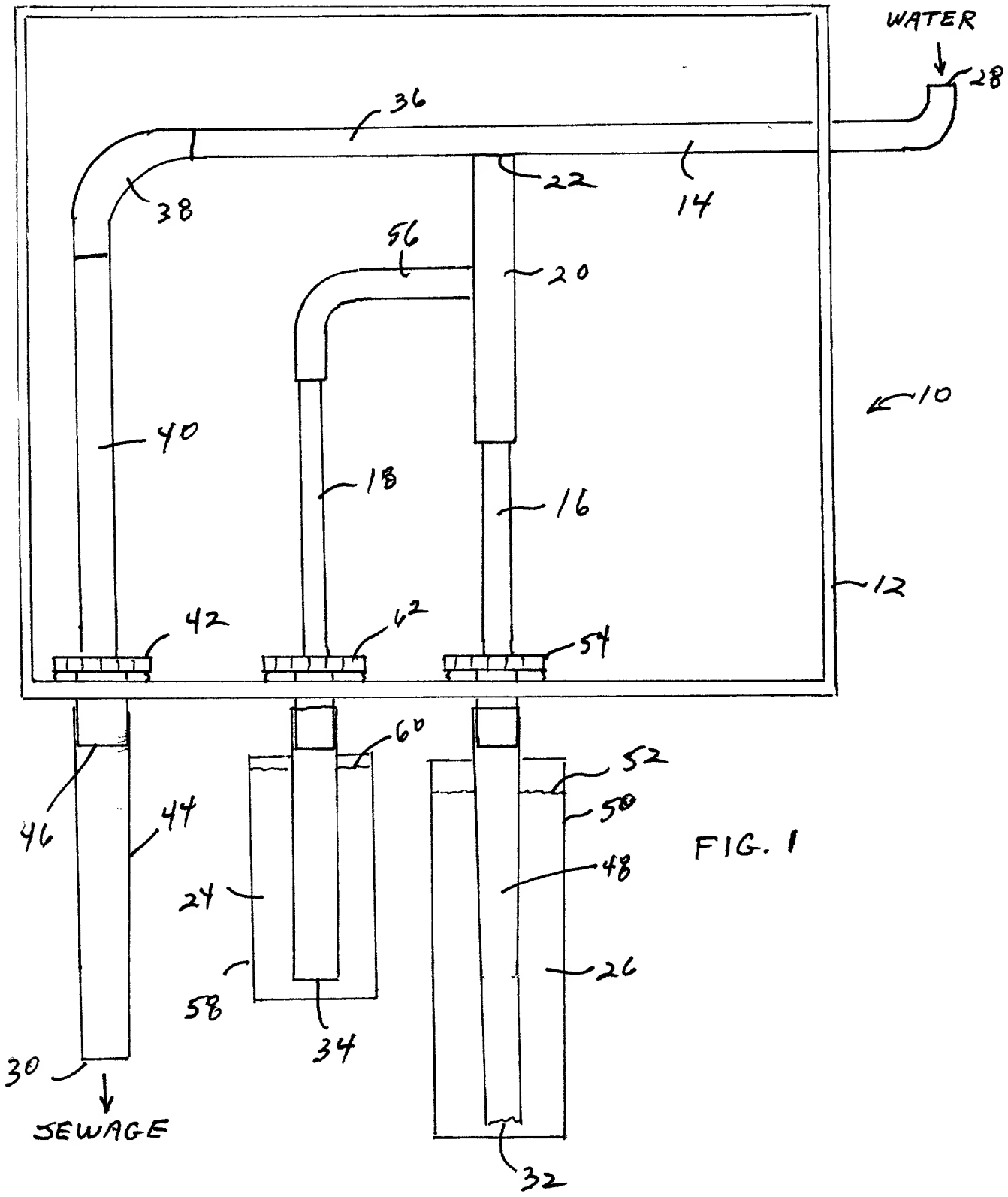
WATER
28
36
38
22
14
56
20
10
40
18
16
12
42
62
54
60
52
50
46
44
48
24
26
58
34
30
SEWAGE
32

FIG. 1

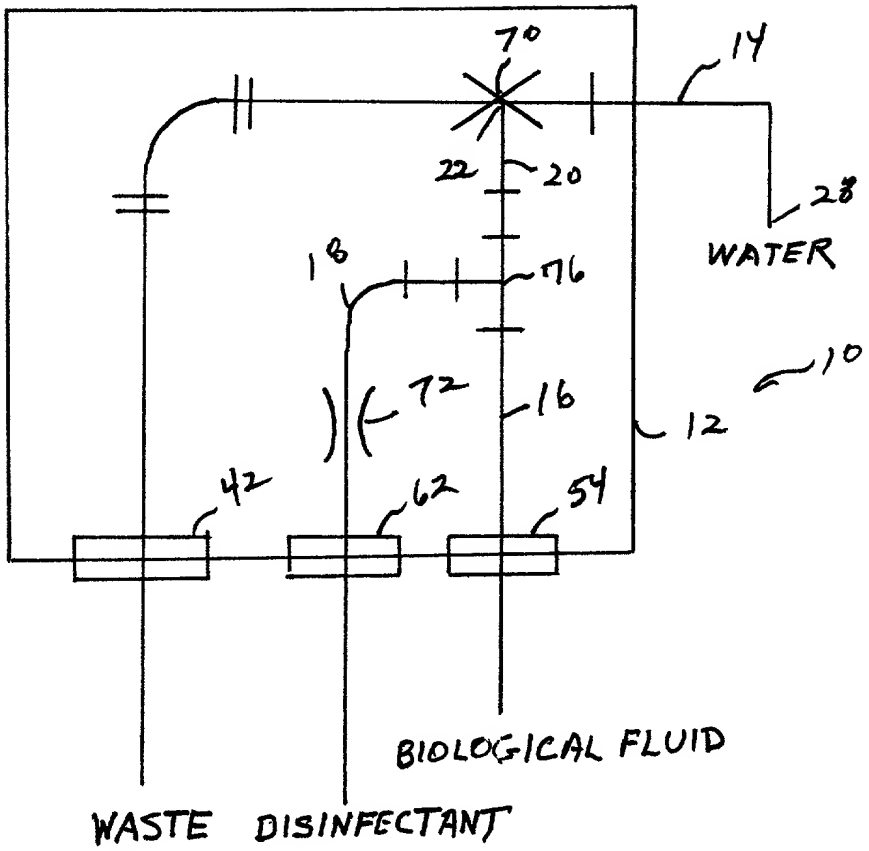
70
14
22
20
28
WATER
18
76
10
72
16
12
42
62
54
BIOLOGICAL FLUID
WASTE
DISINFECTANT

FIG. 2

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☒ Declaration Submitted with Initial Filing **OR** ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	1721-1
First Named Inventor	WHITE, James M.
COMPLETE IF KNOWN	
Application Number	/
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

BIOLOGICAL FLUID DISPOSAL SYSTEM

(Title of the Invention)

the specification of which
☒ is attached hereto
OR
☐ was filed on (MM/DD/YYYY) [ ] as United States Application Number or PCT International Application Number [ ] and was amended on (MM/DD/YYYY) [ ] (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☐ Customer Number [ ] → *Place Customer Number Bar Code Label here*
OR
☒ Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number
John S. Egbert	30,627		
Al Harrison	31,708		

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label [ ] *OR* ☒ Correspondence address below

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
James M.	WHITE

Inventor's Signature						**Date**	6/13/00
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City		**State**		**ZIP**		**Country**	

☐ Additional inventors are being named on the ____supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto